

CLAIMS

1. A method of streaming media data by transmitting a plurality of data packets over a network from a source server to a client device wherein the client device includes a decoder for decoding encoded packets, wherein
5 the client device further includes a pre-decoder buffer having a variable initial buffering time and a variable buffer size, the pre-decoder buffer for receiving the transmitted data packets from the source server prior to decoding in the decoder, and wherein the variable initial buffering time and the variable buffer size of the pre-decoder buffer are dynamically
10 adapted for improved playback performance by the client device.
2. A method according to claim 1, wherein the client device submits a request to the source server to set either one or both of the initial buffering time and pre-decoder buffer size.
3. A method according to claim 1, wherein a default initial buffering time and a default buffer size are defined for the pre-decoder buffer.
4. A method according to claim 3, wherein the client device signals either
20 one or both of the default initial buffering time or the default buffer size for the pre-decoder buffer to the source server.
5. A method according to claim 1, wherein the variable initial buffering time of the pre-decoder buffer is adjusted by the client device responsive to an
25 indication of a required pre-decoder initial buffering time received from the source server.
6. A method according to claim 1, wherein the variable buffer size of the pre-decoder buffer is adjusted by the client device responsive to an indication
30 of a required pre-decoder buffer size received from the source server.

7. A method according to claim 1, wherein a plurality of copies of said media data are available to said source server, each of said plurality of copies of the media data being characterised by at least one parameter indicative of a required property of the pre-decoder buffer in the client device.
8. A method according to claim 1, wherein said at least one parameter indicative of a required property of the pre-decoder buffer is transmitted from said source server to said client device.
9. A method according to claim 8, wherein said at least one parameter indicative of a required property of the pre-decoder buffer is transmitted from said source server to said client device during establishment of a streaming data connection between said source server and said client device for streamed download of said media data.
10. A method according to claim 8 or 9, wherein said at least one parameter indicative of a required property of the pre-decoder buffer is selected from a group including: a required pre-decoder initial buffering time, a required pre-decoder buffer size, or both a required pre-decoder initial buffering time and a required pre-decoder buffer-size.
11. A method according to claim 1, wherein the dynamic adaptation is an adaption performed by the client device responsive to a signal from the source server.
12. A method according to claim 1, wherein a buffering algorithm is used in said source server to control the transmission of said data packets.
13. A method according to claim 12, wherein said buffering algorithm causes the source server to adjust the transmission times of data packets from the source server to the client device.

14. A method according to claim 12, wherein said buffering algorithm verifies that the transmission of said data packets from the source is in accordance with the variable initial buffering time and variable buffer size of the pre-decoder buffer in said client device.

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15. A method according to claim 1, wherein a post-decoder buffer is implemented in the client device to reduce decoding-related delay variations.

10 16. A method according to claim 1, wherein the media data is transmitted to a wireless client device via a wireless data network such as GPRS (General Packet Radio Service) or UMTS (Universal Mobile Telecommunications System).

15 17. A method according to claim 1, wherein the media data is transmitted to a wireless client device and said network includes a wireless network, said wireless network being selected from a group comprising: a GPRS (General Packet Radio Service) wireless network and a UMTS (Universal Mobile Telecommunications System).

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18. A system for streaming media data by transmitting a plurality of data packets, the system includes:

- a source server hosting said media data;
- a network serving as a transmission medium for said data packets; and
- 25 - a client device capable of playing back said media data wherein said client device includes:
 - a pre-decoder buffer for receiving said transmitted data packets from said source server via said network said pre-decoder buffer having a variable initial buffering time and a variable buffer size; - a decoder for
- 30 decoding the data packets from the pre-decoder buffer; and

- means for dynamically adapting the variable initial buffering time and the variable buffer size of the pre-decoder buffer for improved playback performance by the client device.

5 19. A system according to claim 18, wherein the network includes a wireless network selected from a group comprising: a GPRS (General Packet Radio Service) wireless network and a UMTS (Universal Mobile Telecommunications System).

10 20. A system according to claim 19, wherein the client device is a wireless terminal compatible for data packet use by said wireless system.

15 21. A system according to claim 18, wherein a buffering algorithm is implemented in the source server for ensuring that the data packets are transmitted at a rate that complies with the buffering capabilities of the client device.

22. A client device for receiving a plurality of data packets transmitted over a network from a source server, wherein it includes:

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- a pre-decoder buffer for receiving said transmitted data packets from said source server via the network said pre-decoder buffer having a variable initial buffering time and a variable buffer size;
 - a decoder for decoding the data packets from the pre-decoder buffer; and
 - means for dynamically adapting the variable initial buffering time and the
- 25 variable buffer size of the pre-decoder buffer for improved playback performance by the client device.

23. A client device according to claim 22, wherein it is selected from a group including: a wireless terminal, a desktop computer, a laptop computer.